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From: Desi Inocencio for Vincent P. Liptak, Reg. No. 53,225

Legal Department

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Subject: Information Disclosure Statement  
U.S. Patent Application No. 10/737,509  
Filing Date: December 16, 2003  
In re Application of: Jeffrey S. Nelson  
Title: Reagents for Oligonucleotide Cleavage and Deprotection

Our File: 4688C1

No. of pages (including cover sheet): 7

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Docket No. 4688C1

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Jeffrey S. Nelson

Serial No.: 10/737,059

Filed: December 16, 2003

For: **Reagents for Oligonucleotide  
Cleavage and Deprotection**

Group Art Unit: To be assigned

Examiner: To be assigned

## CERTIFICATE OF FACSIMILE TRANSMISSION

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Commissioner for Patents  
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Alexandria, VA 22313-1450

Sir:

Applicants submit herewith patents, publications or other information (listed on the attached Form PTO-1449) of which they are aware, which may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR §1.56.

This Information Disclosure Statement:

- (a) ☐ accompanies a new patent application submitted herewith.
- (b) ☐ is filed within three months after the filing date of the application or within three months after the date of entry of the national stage of a PCT application as set forth in 37 CFR §1.491.
- (c) ☒ as far as is known to the undersigned, is filed before the mailing date of a first Office action on the merits.
- (d) ☐ as far as is known to the undersigned, is filed before the mailing date of a first Office action after the filing of a request for continued examination under § 1.114.

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- (e) ☐ is filed after the first Office Action and more than three months after the application's filing date or PCT national stage date of entry filing but, as far as is known to the undersigned, prior to the mailing date of either a final action under §1.113, a notice of allowance under §1.311, whichever occurs first, and is accompanied by either the fee (\$180) set forth in 37 CFR §1.17(p) or a certification as specified in 37 CFR §1.97(e), as checked below. Should any fee be due, the U.S. Patent and Trademark Office is hereby authorized to charge Deposit Account No. 01-2213 in the amount of \$180.00 to cover the cost of this Information Disclosure Statement. Any deficiency or overpayment should be charged or credited to this deposit account. **A duplicate of this sheet is enclosed.**
- (f) ☐ is filed after the mailing date of either a final rejection or a notice of allowance, but on or before the payment of the issue fee, and is accompanied by the fee (\$180) set forth in 37 CFR §1.17(i)(1) and a certification as specified in 37 CFR §1.97(e), as checked below. **This document is to be considered as a petition requesting consideration of the information disclosure statement.** The U.S. Patent and Trademark Office is hereby authorized to charge Deposit Account No. 01-2213 in the amount of \$180.00 to cover the cost of this Information Disclosure Statement. Any deficiency or overpayment should be charged or credited to this deposit account. **A duplicate of this sheet is enclosed.**

[If either of boxes (e) or (f) is checked above, the following "certification" under 37 CFR §1.97(e) may need to be completed.] The undersigned certifies that:

- ☐ Each item of information contained in the information disclosure statement was first cited in a communication mailed from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this information disclosure statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication mailed from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this information disclosure statement.

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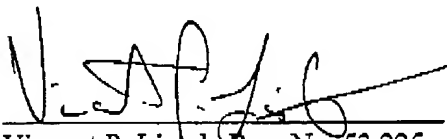
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While the information and references disclosed in this Information Disclosure Statement may be "material" pursuant to 37 CFR §1.56, it is not intended to constitute an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

In accordance with 37 CFR §1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR §1.56(a) exists. It is submitted that the Information Disclosure Statement is in compliance with 37 CFR §1.98 and MPEP §609 and the Examiner is respectfully requested to consider the listed references.

Respectfully submitted,

Date: 6/17/04

  
Vincent P. Liptak, Reg. No. 53,225  
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Substitute for form 1449A/PTO				<b>Complete if Known</b>	
				Application Number	10/737,059
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				Filing Date	December 16, 2003
				First Named Inventor	Jeffrey S. Nelson
				Group Art Unit	To be assigned
				Examiner Name	To be assigned
(Use as many sheets as necessary)				Attorney Docket No.	4688C1
Sheet	1	of	3		

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (If known)			
	01	4,965,349		Woo et al.	10-23-1990	
	02	5,514,789		Kempe	05-07-1996	
	03	5,518,651		Reddy Parameswara et al.	05-21-1996	
	04	5,656,741		Chow et al.	08-12-1997	
	05	5,738,829		Kempe	04-14-1998	
	06	5,801,155		Kutyavin et al.	09-01-1998	
	07	5,932,718		Letsinger et al.	08-03-1999	
	08	5,935,527		Andrus et al.	08-10-1999	
	09	5,936,077		Pfleiderer et al.	08-10-1999	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (If known)				
	10	WO	96/03417	A1	Hybridon, Inc.	02-08-1996		
	11	WO	96/32496	A2	Microprobe Corporation	10-17-1996		
	12	EP	0 839 829	A2	Beckman Instruments, Inc.	05-06-1998		
	13	DE	196 27 898	A1	Hoechst AG	01-15-1998		
	14	WO	00/46231	A1	Amersham Pharmacia Biotech, Inc.	08-10-2000		
	15	EP	1 028 124	A2	ISIS Pharmaceuticals Inc.	08-16-2000		

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Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		Application Number	10/737,059
		Filing Date	December 16, 2003
		First Named Inventor	Jeffrey S. Nelson
		Group Art Unit	To be assigned
		Examiner Name	To be assigned
		Attorney Docket No.	4688C1
Sheet	2	of	3

OTHER ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	16	AUBERT et al., "Optimized synthesis of phosphorothioate oligodeoxyribonucleotides substituted with a 5'-protected thiol function and a 3'-amino group," <i>Nucleic Acids Research</i> , Vol. 28, No. 3, pp. 818-825 (2000).	
	17	BAIER et al., "Synthesis and Purification in a Single Column on a High-Throughput Automated Oligonucleotide Production System," <i>BioTechniques</i> , Vol. 20, No. 2, pp. 298-303 (February 1996).	
	18	BOAL et al., "Cleavage of oligodeoxyribonucleotides from controlled-pore glass supports and their rapid deprotection by gaseous amines," <i>Nucleic Acids Research</i> , Vol. 24, No. 15, pp. 3115-3117 (1996).	
	19	CHANG et al., "An Improved Deprotection Procedure of Amine-Containing Oligonucleotides from Acrylonitrile Modification," <i>Nucleosides &amp; Nucleotides</i> , 18(6&7), pp. 1205-1206 (1999).	
	20	KUTYAVIN et al., "3'-Minor groove binder-DNA probes increase sequence specificity at PCR extension temperatures," <i>Nucleic Acids Research</i> , Vol. 28, No. 2, pp. 655-661 (2000).	
	21	MANOHARAN et al., "A New Protecting Group Strategy for Amino Groups in Oligonucleotide Chemistry: CEOC Group," <i>Nucleosides &amp; Nucleotides</i> , 18(6&7), pp. 1199-1201 (1999).	
	22	POLUSHIN et al., "On the rapid deprotection of synthetic oligonucleotides and analogs," <i>Nucleic Acids Research</i> , Vol. 22, No. 4, pp. 639-645 (1994).	
	23	PON et al., "Hydroquinone-O,O'-diacetic acid ("Q-linker") as a replacement for succinyl and oxalyl linker arms in solid phase oligonucleotide synthesis," <i>Nucleic Acids Research</i> , Vol. 25, No. 18, pp. 3629-3635, (1997).	
	24	REDDY et al., "Ultrafast Cleavage and Deprotection of Oligonucleotides Synthesis and Use of C <sup>Ac</sup> Derivatives," <i>Nucleosides &amp; Nucleotides</i> , 16(7-9), pp. 1589-1598 (1997).	

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